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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,861

03/22/2006

Junichi Itai

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EXAMINER

LEE, JOHN R

ART UNIT

PAPER NUMBER

2878

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/572,861

Applicant(s)

ITAI, JUNICHI

Examiner

John R. Lee

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/22/2006 (new application).
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 22 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/22/2006.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because in figure 1, element number 15b, which is called the substrate of the LED chip in the specification points to the anode in figure 1; that part should be labeled 15f, as it is in figure 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each

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drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: The numerous references to claim number in the specification is inappropriate: for example, page 3, line 14. These are used in many instances too numerous to list, but are found on pages 3-5 of the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the use of the word "type" in the phrase "chip type" has generally been held to render a limitation indefinite.

Also, claim 1 is indefinite because the claim is not clear as to what is meant by "oriented downward" and "oriented upward"; while this may be self-evident when looking

at the figures, the figures do not form part of the claims. Therefore, it is suggested that this language be changed to indicate that the anode and cathode are oriented so that the anode is closer to the insulating substrate than the cathode and so that the anode is between the cathode and the insulating substrate; this language is supported by figures 1-2.

Claim 2 is indefinite as to the meaning of "adjacent." This word seems to be misused in this context since the figures 1-2 show that there are n- and p- layers between the light emitting layer (15d) and the cathode (15a). Rather than using "adjacent," the words "relatively closer" as discussed on page 7 more appropriately describe what was intended to be claimed.

In claim 3, "white" should probably refer to a white color film on the insulating substrate as taught in the specification rather than that the surface is actually white.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyoshi et al. (JP 05-327012), cited by the applicant.

This reference appears to teach a light emitting diode with diode chip (t) having inwardly inclined sided (see figures). The chip is mounted on an insulating substrate

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(2c), and there is a transparent package (50) to seal the chip there within. Since this is a diode, there are anode and cathode electrodes (4 and 5) and inherently p and n layers and a light emitting layer. The light-emitting layer appears in the figure to be located "adjacent" to either electrode given the indefinite meaning of that term in this context.

While this abstract does not specify which is the cathode and which is the anode, such would be a matter of design choice dictated by the orientation of the p and n layers. Therefore one of ordinary skill in the art would have the anode below and cathode above as a matter of convenience in the construction of the device.

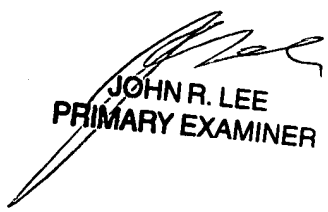
Regarding claim 3, Kiyoshi et al. do not disclose a white color layer on the substrate. The examiner takes Official notice that using white color films or the like in LED packages to reflect light from the light emitting layer towards the directions in which light is intended is well known in the art for increasing light output or illumination efficiency. Therefore, it would have been obvious to include a white color layer around the chip on the substrate of Kiyoshi et al. so as to increase the illumination efficiency of the LED device taught by Kiyoshi et al.

(Continued on
Page 6)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Itai is the patent publication of the present application. Nakamura et al., Egalon et al. Eisert et al., and Shveykin teach LED chips with inclined sides.

Any inquiry concerning this communication should be directed to John R. Lee at telephone number (571) 272-2477.



JOHN R. LEE
PRIMARY EXAMINER